ABSTRACT OF THE DISCLOSURE

A Raman amplifier according to the present invention comprises a plurality of pumping means using semiconductor lasers of Fabry-Perot, DFB, or DBR type or MOPAs, and pumping lights outputted from the pumping means have different central wavelengths, and interval between the adjacent central wavelength is greater than 6 nm and smaller than 35 nm. An optical repeater according to the present invention comprises the above-mentioned Raman amplifier and adapted to compensate loss in an optical fiber transmission line by the Raman amplifier. In a Raman amplification method according to the present invention, the shorter the central wavelength of the pumping light the higher light power of said pumping light. In the Raman amplifier according to the present invention, when a certain pumping wavelength is defined as a first channel, and second to n-th channels are defined to be arranged with an interval of about 1 THz toward a longer wavelength side, the pumping lights having wavelengths corresponding to the first to n-th channels are multiplexed, and an pumping light having a wavelength spaced apart from the n-th channel by 2 THz or more toward the longer wavelength side is combined with the multiplexed light, thereby forming the pumping light source. The pumping lights having wavelengths corresponding to the channels other than (n-1)-th and (n-2)-th channels may be multiplexed, thereby forming the pumping light source. The pumping lights having wavelengths corresponding to the channels other than (n-2)-th and (n-3)-th channels may be multiplexed, thereby forming the pumping light source.